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Q.1 code

data=load("Q.1.txt","-ascii");

M=data(1,1);b=data(1,2);t=data(1,3);a=data(1,4);

A=a/b;B=(pi\*a)/2;

C=sqrt(tan(B)/B)\*((0.923+0.199\*(1-sin(B))^2)/cos(B));

o=(6\*M)/t\*b^2;

K=C\*o\*sqrt(pi\*a);

fprintf("The stress intensity factor for a beam that is %.2fm wide and %.2fm thick with an edge crack of %.2fm and an applied moment of %dN-m is %d Pa-sqrt(m)\n",b,t,a,M,K);

Q.1 ans

The stress intensity factor for a beam that is 0.25m wide and 0.01m thick with an edge crack of 0.25m and an applied moment of 20N-m is 7.380177e+02 Pa-sqrt(m)

Q.2 code

q2 = xlsread('Q.2.xlsx');

min\_col=min(q2)

max\_col=max(q2)

Q2.ans

min\_col =

49 39 90

max\_col =

63 51 98

Q.3 code

Q=8000;R=1.987;k0=1200;

T=100:50:500;

k=k0.\*exp(-Q./(T.\*R));

tableTK(:,1)=T;

tableTK(:,2)=k;

disp('Temperature(K) Rate Constant(1/min)')

disp(' ')

disp(tableTK);

Q3.ans

Temperature(K) Rate Constant(1/min)

100.0000 0.0000

150.0000 0.0000

200.0000 0.0000

250.0000 0.0001

300.0000 0.0018

350.0000 0.0121

400.0000 0.0510

450.0000 0.1561

500.0000 0.3820

Q4.code

x=0:0.1:2;

q4=@(x)10\*exp(-2\*x);

q4(x)

Q4.ans

텍스트, 스크린샷, 소프트웨어, 디스플레이이(가) 표시된 사진

AI가 생성한 콘텐츠는 부정확할 수 있습니다.

Q5.code

heat=@(w)w;

cal\_to\_J=@(cal)cal\*4.2;

save('functions.mat','cal\_to\_J','heat');

Q5.ans

텍스트, 소프트웨어, 컴퓨터 아이콘, 웹 페이지이(가) 표시된 사진

AI가 생성한 콘텐츠는 부정확할 수 있습니다.See attached files